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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,227	02/02/2004	Aaron Schapper	3146.2.39	1801
21552	7590	03/07/2006	EXAMINER	
MADSON & AUSTIN GATEWAY TOWER WEST SUITE 900 15 WEST SOUTH TEMPLE SALT LAKE CITY, UT 84101			GORMAN, DARREN W	
			ART UNIT	PAPER NUMBER
			3752	
DATE MAILED: 03/07/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/770,227

Applicant(s)

SCHAPPER ET AL.

Examiner

Darren W. Gorman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-86 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-17, 19, 20, 23-27, 29, 30, 35-39, 41-46, 49, 50, 61-66, 68, 71-75, 77 and 78 is/are rejected.
- 7) ☒ Claim(s) 47 and 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/07/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 10,18,21,22,28,31-34,40,51-60,67,69,70,76 and 79-86.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Invention Group I and Species Group A in the reply filed on February 13, 2006 is acknowledged.
2. Although Applicant indicated that claims 1-9, 11-20, 23-27, 29, 30, 35-39, 41-54, 61-68, 71-75, 77 and 78 read on the elected species, the Examiner has determined that only claims 1-9, 11-17, 19, 20, 23-27, 29, 30, 35-39, 41-50, 61-66, 68, 71-75, 77 and 78 read on the elected species, since claims 18, 51-54 and 67 include the limitation that the deflector is rotatable with respect to the housing, which is a feature exclusive to a non elected species and is not found in the elected embodiment. Claims 10, 18, 21, 22, 28, 31-34, 40, 51-60, 67, 69, 70, 76 and 79-86 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention/Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 13, 2006.

### *Information Disclosure Statement*

3. The IDS filed on May 7, 2004 is hereby acknowledged and has been placed of record. Please find attached a signed and initialed copy of the PTO 1449.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 11, 12, 14-17, 19, 20, 23-27, 29, 30, 35-39, 41-46, 49, 50, 61, 63-66, 68, 71-75, 77 and 78 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang, USPN 6,820,825.

Regarding apparatus claims 11, 12, 14-17, 19, 20, 23-27, 29, 30, 35-39, 41-46, 49 and 50, Wang shows a sprinkler (see Figures 2-11) with an adjustable arc spray pattern having an arc that is continuously variable through an arc angle, the sprinkler comprising: a cylindrical housing (10) having an axis and a cam (40) having a cam axis coaxial with the housing axis, the housing having an inlet portion and an outlet portion, wherein the outlet portion includes a substantially flat wall (20) disposed generally perpendicular to the cam axis and a plurality of outlet apertures (A1, A2, A3 and A4) arranged in a spiral pattern and formed in the substantially flat wall, wherein the outlet apertures extend through the arc angle with respect to the cam axis, the apertures having a gradually increasing radius within the arc angle, and wherein the cam is disposed upstream of and adjacent to the apertures and includes an outer edge (B1, B2, B3 and B4) having a gradually increasing radius within the arc angle, the cam being rotatable in-plane to

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adjustably impede passage of water into the outlet apertures such that the position of the cam controls the sprinkler spray arc angle from 90° to 360° (see column 3, line 21 through column 4, line 3). Further, the upper portion of element (30) functions as an adjustment dial, the adjustment dial being formed separately from the cam and coupled to the cam to transmit torque manually applied to the adjustment dial by a user to induce the rotation of the cam. Still further, Wang shows a conical deflector element (31) including a skirt (32) that extends along a portion of the cam axis to block water flow toward the cam axis downstream of the outlet apertures, the deflector being positioned such that water exiting through the apertures is deflected away from the cam axis to provide the spray pattern, the deflector being fixedly disposed with respect to the housing when element (30) is not being rotated manually for arc adjustment (i.e. the deflector does not freely rotate with respect to the housing).

Regarding method claims 61, 63-66, 68, 71-75, 77 and 78, the recited method steps for distributing water and the recited method steps for manufacturing a sprinkler follow the apparatus discussed above.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.

Wang shows all of the limitations set forth in claims 12 and 61, and further, Wang shows

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the sprinkler to be a “pop-up type sprinkler” including a casing (05) (see Figure 1). However element (10) acts as both the “pop-up stem” of the pop-up sprinkler assembly and as the housing for the sprinkler, rather than the pop-up stem being a separate element from the housing and being “attached to” the housing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the housing and stem from two separate parts, rather than a single part as shown by Wang, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177 (Bd PatApp&Int 1969).

8. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Burgess, USPN 5,022,585.

Regarding claims 1-5 and 7-9, Wang shows a sprinkler assembly usable with an irrigation system, the sprinkler assembly including an adjustable arc spray pattern having an arc that is continuously variable through an arc angle, the sprinkler comprising: a cylindrical housing (10) having an axis and a cam (40) having a cam axis coaxial with the housing axis, the housing having an inlet portion and an outlet portion, wherein the outlet portion includes a substantially flat wall (20) disposed generally perpendicular to the cam axis and a plurality of outlet apertures (A1, A2, A3 and A4) arranged in a spiral pattern and formed in the substantially flat wall, wherein the outlet apertures extend through the arc angle with respect to the cam axis, the apertures having a gradually increasing radius within the arc angle, and wherein the cam is disposed upstream of and adjacent to the apertures and includes an outer edge (B1, B2, B3 and

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B4) having a gradually increasing radius within the arc angle, the cam being rotatable in-plane to adjustably impede passage of water into the outlet apertures such that the position of the cam controls the sprinkler spray arc angle from 90° to 360° (see column 3, line 21 through column 4, line 3). Further, Wang shows a conical deflector (31) positioned such that water exiting through the apertures is deflected away from the cam axis to provide the spray pattern.

However, Wang does not expressly disclose the elements of the combination irrigation system with which the sprinkler assembly is usable, wherein the irrigation system includes a source of water, a plurality of valves coupled to the source of water, each valve being electrically controllable and having an open and a closed position, a plurality of conduits coupled to each valve to receive water from the valve, a plurality of sprinklers coupled to each conduit, and a timer coupled to the valves to control operation of the valves.

Burgess discloses a known prior art irrigation system (10) (see Figure 1), which may use conventional sprinkler heads, the system including a source of water (12), a plurality of solenoid valves (22, 24, 26) coupled to the source of water, each valve being electrically controllable (32a, 34a, 36a) to have an open and a closed position, a plurality of conduits (14, 16, 18) coupled to each valve to receive water from the valve, wherein a plurality of conventional sprinkler heads (14a, 16a, 18a) may be coupled to each conduit, and a timer (28) coupled to the valves to control operation of the valves.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included the above stated elements of the conventional irrigation system shown by Burgess, in combination with a plurality pop-up sprinkler heads shown by



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Wang, such that a user may selectively deliver water to various zones in a variety of spray patterns as desired.

As to claim 6, Wang, as modified by Burgess, teaches all of the limitations set forth in claim 1, and further, Wang shows the sprinkler to be a “pop-up type sprinkler” including a casing (05) (see Figure 1). However element (10) acts as both the “pop-up stem” of the pop-up sprinkler assembly and as the housing for the sprinkler, rather than the pop-up stem being a separate element from the housing and being “attached to” the housing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the housing and stem from two separate parts, rather than a single part as shown by Wang, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177 (Bd PatApp&Int 1969).

#### ***Allowable Subject Matter***

9. Claims 47 and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Hunter, Bruninga, Lamar, Wang, and Mitzlaff are cited as of interest.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901.

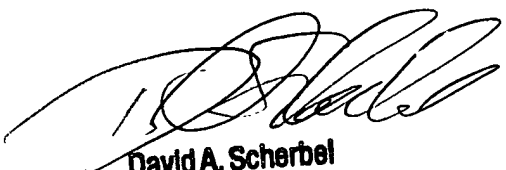
The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darren W Gorman  
Examiner  
Art Unit 3752

*DWG 3/1/06*  
DWG  
March 1, 2006

  
**David A. Scherbel**  
Supervisory Patent Examiner  
Group 3700